



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/221,554	12/28/98	ARKLES	B 08743-3U2

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EXAMINER

MOORE, M

ART UNIT

PAPER NUMBER

1712

3

DATE MAILED:

03/29/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
09/221,554

Applicant(s)  
Arkles et al.

Examiner  
Margaret Glass Moore

Group Art Unit  
1712



☒ Responsive to communication(s) filed on Aug 5, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1 to 20 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1 to 20 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5, 12, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Sommer et al.

Sommer et al. teach the reaction product of an organosilane meeting the general formula in claim 1 wherein X is chlorine, "n" is 1 and R is a beta-chloroethyl group. This meets the limitations of claims 1, 2 and 5. With regards to claim 12, note that this can be any alkoxysilane. As such this reads on the reaction product of the organosilane with a beta-chloroethyl alkoxy silane. Since the hydrolysis of a beta-chloroethyl alkoxysilane and a beta-chloroethyl chlorosilane results in the same product, the silicone polymer taught in Sommer et al. will inherently be the same as the reaction product as claimed when the alkoxysilane is a beta-chloroethyl alkoxy silane. With regards to claims 16 and 17, note the process shown on column 2 of page 1084.

4. Claims 1, 8, 11, 12, 14 and 16 to 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Schank.

Schank teaches a polysiloxane containing an electron accepting atom. See for instance the teachings on column 6 and specifically Examples III and IV. This beta-cyanoethyl triethoxysilane

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will hydrolyze to form the claimed silsesquioxane polymer. This hydrolyzed solution is present in an alcohol solvent. Example III contains the triethoxysilane of claim 14.

5. Claims 2, 5, 9, 10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schank.

While patentees do not specifically teach a chloroethyl substituent group, note the general formula on column 6 which includes such groups. Also, patentees specifically teach chloromethyl and chloropropyl on column 6. Since chloroethyl is an adjacent homolog to these groups the skilled artisan would have found the selection of such a group as an electron accepting group to have been obvious over this teaching. With regards to the silanol content, note column 5, lines 10 to 15, which teaches a silanol content of at least 33.3%. This renders silanol contents within the claimed ranges obvious. With regards to claims 13 and 15, note the teachings on column 4, lines 10 to 15, which suggests the addition of such silanes in the hydrolysis product.

6. Claims 1, 2, 5, 9, 11 to 13 and 15 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alekna.

Alekna teaches siloxane resins. Note the siloxane units on line 65 which correspond to the claimed silsesquioxane polymer units when "n" is 1 and R the beta-chloroethyl. One having ordinary skill in the art would have been motivated by this teaching to include such units in a siloxane, thereby rendering obvious the instant claims.

Column 4 teaches silane reactants that are hydrolyzed to prepare the siloxane of Alekna. As can be seen, the siloxanes can contain various siloxane units, suggesting the copolymerization of claims 12, 13 and 15. Columns 3 and 4 teach various silanol contents within the range of claim 9. With regards to claim 18, note that Alekna prepares a solution of the siloxane after hydrolysis. The examples use toluene.

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7. Claims 1 to 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

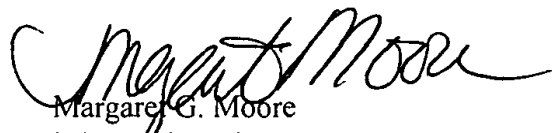
It is unclear what applicants intend by the term "silsesquioxane polymer". Specifically note that, as claimed, "n" can be 2. This will not form a silsesquioxane polymer and thus it confuses what is embraced and intended by the claims.

8. Claims 3, 4, 6, 7 and 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

With regards to claims 3, 4, 6 and 7, the prior art fails to provide adequate motivation to include both an alpha and a beta substituent group as instantly claimed. With regards to claim 20, note that the prior art is silent as to any silsesquioxane's solubility in diglyme, and thus it fails to provide motivation to select a diglyme solvent and form a silsesquioxane having at least 15% by weight solubility therein.

9. Any inquiry concerning this communication should be directed to Margaret G. Moore at telephone number (703) 308-4334.

Any **official** documents (after final rejection) can be faxed to (703) 305-3599. All other **official** faxes should be sent to (703) 305-5408. Please do not send any informal communication or proposed amendments to this number.

  
Margaret G. Moore  
Primary Examiner  
Art Unit 1712

mgm  
March 27, 2000